

Shoreline Restoration and Management Plan/Environmental Impact Statement

Indiana Dunes National Lakeshore
Indiana

National Park Service
U.S. Department of the Interior



Public Scoping Meeting



View of Lake Michigan from the Dunes

Welcome

The National Park Service (NPS) and Indiana Dunes National Lakeshore welcome you to the Public Scoping Meeting for the Shoreline Restoration and Management Plan/Environmental Impact Statement (EIS). You are a vital part of the planning effort. We thank you for attending and look forward to your participation throughout the development of the Plan/EIS.

The NPS Mission

The NPS preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The NPS cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.



Indiana Dunes National Lakeshore

History

Henry Cowles, a botanist from the University of Chicago known as the “father of plant ecology” helped bring international attention to the intricate ecosystems of the Indiana Dunes. Residents recognized the value of the Dunes and first proposed a national park in 1915. Interested citizens continued to pursue this effort for the next 50 years, while others sought industrial uses and proposed the creation of the Port of Indiana. In 1963, President Kennedy proposed “the Kennedy Compromise” that allowed both a national park and a port. In 1966, Illinois Senator Paul H. Douglas sponsored legislation that authorized Indiana Dunes National Lakeshore, which included 8,330 acres of land and water. Four subsequent expansions (1976, 1980, 1986 and 1992) have increased the size of the park to more than 15,000 acres.

Purpose of Indiana Dunes National Lakeshore

The park’s purpose is the specific reason the park was established as a unit of the national park system. Statements of purpose are grounded in a thorough analysis of the park’s legislation and legislative history. Purpose statements go beyond a restatement of the law to document shared assumptions about what the law means in terms specific to the park.

The purpose of Indiana Dunes National Lakeshore is to preserve, restore, and protect outstanding ecological and biological diversity along with geologic features that characterize the southern shore of Lake Michigan and to provide access for a large diverse population to experience natural scenic open spaces, historic features and provide for educational, scientific, inspirational, and recreational opportunities.

Shoreline Restoration and Management Plan/EIS

Need

The NPS is charged with restoring and protecting natural processes/systems along the Lake Michigan shoreline. Harbors and shoreline stabilization structures (jetties, breakwaters, revetments, and bulkheads) have altered natural sand movement patterns, resulting in areas of significant sand accretion (too much sand) east of Michigan City Harbor and Burns International Harbor, and sand starvation (not enough sand) to the west of these harbors. Over time, extensive beach and dune erosion has occurred, threatening both public and private resources. NPS has initiated this Plan/EIS to address these issues.

Purpose

The NPS will develop a long-term Shoreline Restoration and Management Plan and establish a draft regional sand budget management plan to minimize the need for and increase the effectiveness of shoreline management, and help maintain a more “natural” shoreline at the park.

The Plan/EIS will develop and analyze science-based alternatives to help restore or replicate natural shoreline sand movement; restore and manage the foredune zone; limit or remove terrestrial and aquatic invasive species; improve water quality; and preserve and improve visitors’ experience.

Planning Process Timeline

Fall/Winter 2010

Planning Activity

Scoping – Identify issues and concerns related to the Park with input from the public and park neighbors

Public Involvement

Attend public meeting to share your ideas and concerns, submit written comments and/or comment on the website

WE ARE HERE
December 2010

Planning

Preliminary
Develop
possible
and ass
impacts

Public

Review
newslet

Ecological Issues along the Shoreline

There are a number of ecological issues related to the Plan/EIS including the following

- Protect endangered, threatened and rare species such as Pitcher’s thistle and Piping plover.
- Protect and restore critical habitat such as pannes at West Beach.
- Re-establish foredunes, small shoreline dunes covered by vegetation.
- Manage non-native/invasive species of plants and animals.
- Minimize the negative impact of human activity in the project area.
- Address linkages between shoreline processes and ecology of the shoreline.
- Identify beach nourishment materials more compatible with natural ecology.



Spring 2011

Planning Activity

Identify Alternatives
Develop Plan – Outline different
scenarios for the Park
Assess their environmental
impacts

Involvement

Public Scoping
Meeting

Fall/Winter 2011

Planning Activity

Prepare and Distribute Draft
Plan/EIS – Explain various
alternatives and their possible
environmental impacts.
Review and comment by the
public and park neighbors

Public Involvement

Review the Draft Plan/EIS and
provide comments
Attend public meeting to share
your thoughts and concerns or
submit written comments

Summer/Fall 2012

Planning Activity

Complete the Final Plan/EIS

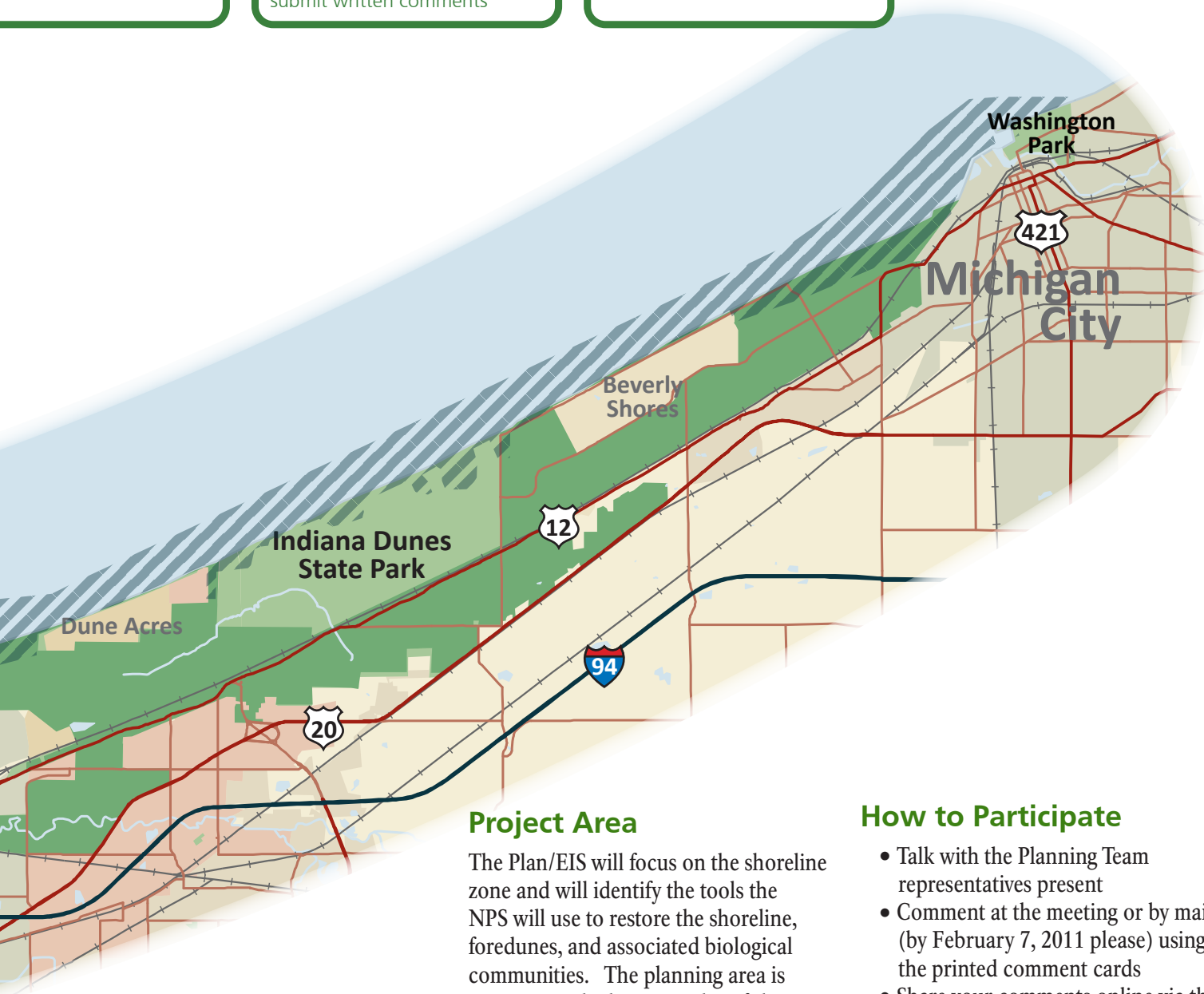
Public Involvement

Read the Final Plan/EIS

Fall 2012 and Beyond

Project Implementation

Turn the Plan/EIS into a reality



Project Area

The Plan/EIS will focus on the shoreline zone and will identify the tools the NPS will use to restore the shoreline, foredunes, and associated biological communities. The planning area is approximately thirteen miles of the southern Lake Michigan shoreline along Indiana Dunes National Lakeshore from Michigan City to Gary.

How to Participate

- Talk with the Planning Team representatives present
- Comment at the meeting or by mail (by February 7, 2011 please) using the printed comment cards
- Share your comments online via the NPS website at parkplanning.nps.gov/indushoreline

Project Area

Indiana Dunes National Lakeshore

State and Local Parkland

Not to Scale

Understanding Shoreline Sand Movement

At the southern end of Lake Michigan the shoreline orientation, prevailing wind, storm directions, and water currents naturally move sand from the east to the west. The installation of navigational harbors and certain shoreline structures along the shoreline have interrupted these natural shoreline processes, resulting in too much sand (sand accretion) in some areas and too little sand (sand starvation) in other areas. Sand starvation has contributed to increased erosion rates in front of Mt. Baldy and Portage Lakefront. Sand dredging and artificial beach nourishment operations are expensive temporary measures that do not sustainably address the problems of sand accretion and starvation.

Shoreline Restoration Tools

Soft (Natural)

- Dune grasses and other plantings
- Organic material (coconut fibers and other materials)
- Sand

Benefits

- Natural buffer
- Creates habitat opportunities

Limitations

- Not suitable for active littoral zone
- Significant on-going maintenance



Wetland Buffer



Dune Restoration

Hard (Man-made)

- Headlands
- Revetments
- Bulkheads
- Breakwaters
- Lake bottom stone armoring

Benefits

- Reduce/eliminate erosion landward and downcutting rates
- Can be applied in high energy zones

Limitations

- Limited habitat opportunities for native species
- High initial construction cost



Rubble Mound Revetment



Bulkhead



Headlands



Breakwaters

Hybrid Structures (Combination of Natural and Man-made)

- Dune grasses and other plantings
- Sand
- Stone

Benefits

- Natural buffer
- Creates habitat opportunities

Limitations

- Not suitable for littoral zone, only for moderate wave energy
- Significant on-going maintenance



Bioengineering



Combination of Structures